

US-PAT-NO: 5695541

DOCUMENT-IDENTIFIER: US 5695541 A

TITLE: Process for preparation of bacterial  
agricultural products

----- KWIC -----

Claims Text - CLTX (2):

culturing a species of microorganism capable of  
surviving in a desiccated  
state selected from *B. japonicum*, *R. meliloti*, *R.*  
*leguminosarum* biovar  
*trifolii*, *viceae* and *phaseoli*, *Bradyrhizobium* species for  
peanut, and *B. lupini*  
in a growth medium to form a culture;

Claims Text - CLTX (10):

culturing a species of microorganism selected from *B.*  
*japonicum*, *R.*  
*meliloti*, *R. leguminosarum* biovar *trifolii*, *viceae* and  
*phaseoli*, *Bradyrhizobium*  
species for peanut, and *B. lupini* in a growth medium to  
form a culture;

US-PAT-NO: 4711656

DOCUMENT-IDENTIFIER: US 4711656 A

TITLE: Enhancement of nitrogen-fixation  
with rhizobial tan  
variants

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Detailed Description Text - DETX (13):

Bradyrhizobium japonicum L-259 (USDA strain 26) was obtained from the Agricultural Research Service Culture Collection, Peoria, Ill. 61604. The organism was grown on a nitrogen-limited medium containing 0.3 g. L-glutamic acid (glu) and 0.5 g. L-tryptophan (trp) per liter. The complete medium contained glutamate-mannitol-gluconate (GMG) as nitrogen and carbon sources as set forth in Table I, below. Relative growth in liquid media was determined by turbidity with a "Klett-Summerson" colorimeter fitted with a 660 nm. filter (Klett.sub.66). In the 0.3 g. glu medium, the wild-type strain L-259 gave a colorless but limited growth of 170 Klett.sub.66 turbidity units. The aerobic, submerged culture incubated at 25.degree. C. for 5 days on a rotary shaker (150 r.p.m.) was incubated further as a static culture for 15 days, yielding a tan broth. The broths were dark brown when 10% inocula were subtransferred twice more (14 days each incubation) into fresh N-limited medium containing 0.1 g. glu acid and 0.5 g. trp per liter. When limited by 0.1 g. glu per liter, growth was 85 Klett.sub.66 turbidity units and yielded 15.times.10.sup.8 colony-forming units (CFU) per ml.

US-PAT-NO: 5922316

DOCUMENT-IDENTIFIER: US 5922316 A

TITLE: Composition for enhancing grain  
yield and protein yield  
of legumes grown under environmental  
conditions that  
inhibit or delay nodulation thereof

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Detailed Description Text - DETX (8):

The inoculum was produced by culturing *Bradyrhizobium japonicum* strain 532C (Hume and Shelp, 1990) in yeast extract mannitol broth in 250 mL flasks shaken at 125 rpm at room temperature. Strain 532C has been shown to perform well over a range of temperatures (Lynch and Smith, 1993, *Physiol. Plant* 88:212-220). For production of *B. japonicum* preincubated with genistein, 10 mL of a cell suspension from a 3-day-old (log phase  $2 \times 10^9$  cells/mL) sub-culture were aseptically added to 50 mL of sterile genistein solution in a 250 mL Erlenmeyer flask and incubated at 30°C without shaking for 48 hours (Halverson and Stacey, 1984). Following incubation, the cell suspensions were pelleted in sterile centrifuge tubes at 7000 g for 10 minutes, washed once with distilled water, and resuspended to an A<sub>620</sub> of 0.08 (approximately  $10^5$  cells/mL). The inoculum was cooled to the corresponding root temperature and 1 mL of the inoculum was applied by pipette onto the rooting medium at the base of the plant.

US-PAT-NO: 6124094

DOCUMENT-IDENTIFIER: US 6124094 A

\*\*See image for Certificate of Correction\*\*

TITLE: Zoogloeal and hyphomicrobium spp.  
nucleic acids

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Detailed Description Text - DETX (82):

Hyphomicrobium strains were grown on ATCC culture medium 656 [KH.sub.2 PO.sub.4, 1.36 g/l; Na.sub.2 HPO.sub.4, 2.15 g/l; (NH.sub.4).sub.2 SO.sub.4, 0.5 g/l; MgSO.sub.4.7H.sub.2 O, 0.2 g/l; trace solution (CuCl.sub.2, 0.15 g; FeSO.sub.4.7H.sub.2 O, 0.1 g; MnSO.sub.4.H.sub.2 O, 0.035 g; Na.sub.2 MoO.sub.4.2H.sub.2 O, 0.05 g; distilled water, 100 ml) 5.0 ml/l; filter sterilized methylamine hydrochloride, 3.38 g/l; Agar Noble (Difco 0142), 18.0 g/l; distilled water, 1 liter; pH 7.1] at 30.degree. C. Bradyrhizobium japonicum was grown on RDY medium [yeast extract, 1 g/l; K.sub.2 HPO.sub.4, 0.12 g/l; MgSO.sub.4, 0.1 g/l; trace element (H.sub.3 BO.sub.3, 3 g/l MnSO.sub.4.4H.sub.2 O, 2.23 g/l; ZnSO4.7H.sub.2 O, 0.29 g/l; CuSO.sub.4.5H.sub.2 O, 0.125 g/l; COCl.sub.2, 0.065 g/l; Na.sub.2 MoO4.2H.sub.2 O, 0.12 g/l; 1 mM FeCl.sub.3), 1 ml/l; L-glutamate, 1.0 g/l; Na-gluconoate, 5.0 g/l, distilled water, 1 liter; pH 7.0] at 30.degree. C. Sphingomonas capsulate and Sphingomonas strain A8AN3 were grown on Nutrient broth (8.0 g/l peptone) pH 7.0 at room temperature. Zoogloea ramigera strain 25935 was grown on Stokes medium [Peptone, 5 g; 100.times. stock (MgSO.sub.4.7H.sub.2 O, 20 g; NH.sub.4 SO.sub.4, 7.5 g;

Sodium citrate, 10 g; CaCl.sub.2, 5 g; MnSO.sub.4, 5 g;  
FeCl.sub.3.6H.sub.2 O,  
1 g, FeSO.sub.4, 7.5 g; distilled water, 1 liter), 2 rnl;  
pH 7.2 at 30.degree.  
C. Escherichia coli was grown on LB agar at 37.degree. C.